

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re the Application of:	)	Group Art Unit: 3751
	)	
BALL	)	Examiner: Robert M. Fetsuga
	)	
Serial No.: 10/674,862	)	Confirmation No.: 6280
	)	
Filed: September 30, 2003	)	Atty. File No.: 5564-153
	)	
For: "Overflow Assembly For	)	<u>AMENDED APPEAL BRIEF</u>
Bathtubs and the Like"	)	

Filed Electronically

Mail Stop Appeal Brief - Patent  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Appellant submits this Amended Appeal Brief in furtherance of the Notice of Appeal filed on September 28, 2007 and the Notification of Non-Compliant Appeal Brief dated March 19, 2008. No fees are believed due for this submission since it is being filed prior to the one-month due date of April 19, 2008. Although no fees are believed due, the Examiner is authorized to charge any underpayment to Deposit Account No. 19-1970.

In the Notification of Non-Compliant Appeal Brief the Examiner stated, regarding the originally-filed Appeal Brief, that the Status of Amendments section is defective, asserted non-compliance with 37 C.F.R. §41.37(c)(1)(v), and noted the absence of copies of the evidence relied upon. In response, the Section III, Status of the Claims, was amended to describe an Amendment After Final filed August 1, 2007. Section V, Summary of the Claimed Subject matter, has been amended to add references to the flange (76) of the cap. Section V is a concise explanation of the subject matter of the independent claims pursuant to 37 C.F.R. §41.37(c)(1)(v), there is no requirement to "map" the explanation to the actual claim language. Further, included herewith is a copy of the declaration under 37 C.F.R. §1.131. Finally, the typo identified by the Examiner in Section II.B has been corrected.

For the reasons provided herein, Appellant respectfully submits that Claims 12 and 15-39 are in a condition for allowance in this application.

Respectfully submitted,

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Date: 4-12-08

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I. REAL PARTY IN INTEREST

The real party in interest is the assignee of record, WCM Industries, Inc., a Colorado corporation having a place of business at 2121 Waynoka Road, Colorado Springs, CO 80915. An assignment, whereby sole inventor William T. Ball assigned all rights in the present application to WCM Industries, Inc., has been recorded in the U.S. Patent and Trademark Office at Reel No. 014872, Frame No. 0051.

## II. RELATED APPEALS AND INTERFERENCES

The above-identified application is the parent of U.S. Patent Application Serial Nos. 10/738,772 and 10/738,765, both entitled “Overflow Assembly for Bathtubs and the Like”. The above-identified application shares a parent with U.S. Patent Application Serial No. 10/732,726, entitled “Method and Apparatus for Assembling and Sealing Bathtub Overflow and Waste Water Ports”.

A. An appeal was initiated during prosecution of the instant application on November 22, 2005. An Appeal Brief was also submitted on that date. A Reply Brief was never filed. A Notice of Allowance was issued on August 24, 2006. Prosecution was then reopened by the filing of a Request for Continued Examination and Amendment that presented new claims, as well as claims previously indicated as allowable. Despite the presentation of previously allowed claims, all claims were rejected.

B. U.S. Patent Application Serial No. 10/738,772

U.S. Patent Application Serial No. 10/738,772 (the “‘772 application”), filed December 17, 2003, issued into U.S. Patent No. 7,127,752 on October 31, 2006. The ‘772 application was subject to an appeal that was initiated on July 3, 2006. An Appeal Brief was filed July 3, 2006. Instead of responding with a Reply Brief, the examiner of the ‘772 application issued a Notice of Allowance on August 1, 2006. Thus the appeal of the ‘772 application was never forwarded to the Board of Patent Appeals and Interferences (BPAI).

C. U.S. Patent Application Serial No. 10/738,765

U.S. Patent Application Serial No. 10/738,765 (the “‘765 application”) was filed December 17, 2003. The ‘765 application was subject to an appeal that was initiated on April 19, 2006. An Appeal Brief was filed May 24, 2006. Instead of filing a Reply Brief, the examiner reopened prosecution by issuing a non-final office action on May 22, 2007. Thus the appeal of the ‘765 application was never forwarded to the BPAI. The ‘765 application has since been abandoned in

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order to focus on the instant application, which was believed to possess allowable claims due to the above-referenced Notice of Allowance dated August 24, 2006.

D. U.S. Patent Application Serial No. 10/732,726 - Appeal No. 2007-0769

U.S. Patent Application Serial No. 10/732,726 (the “‘726 application”) was filed December 10, 2003. The ‘726 application was subject to an appeal that was initiated on January 26, 2006. An Appeal Brief was filed March 27, 2006. A Reply Brief was filed June 19, 2006. Thereafter, the matter was assigned Appeal No. 2007-0769. The BPAI issued a Decision on October 17, 2007.

Prior to the appeal, Claim 1 of the ‘726 application was rejected as being obvious in view of U.S. Patent No. 5,890,241 to Ball (“Ball”) and U.S. Patent No. 6,192,531 to Fritz (“Fritz”). Claims 5 and 6 of the ‘726 application were rejected as being obvious in view of a combination of Ball, Fritz and U.S. Patent No. 6,088,843 to Francisco (“Francisco”). Finally, Claim 10 of the ‘726 application was rejected as being obvious in view of a combination of U.S. Patent Application Publication No. 2002/0032926 to Lewis (“Lewis”), Fritz and U.S. Patent No. 6,618,875 to Oropallo (“Oropallo”), a rejection that is similar to a rejection of the claims of the instant application that are being appealed, which will be further discussed below.

The BPAI affirmed the rejections of Claims 1, 5 and 6. The rejection to Claim 10 was reversed. The application was remanded to the examiner (the same examiner of the instant application) for further review of the prior art. The examiner issued a Supplemental Examiner’s Answer on January 30, 2008 rejecting Claim 10 as being obvious in view of a combination of Oropallo, Lewis, and Ball.

III. STATUS OF THE CLAIMS

The status of the claims in this application is as follows:

Claims 1-11, 13 and 14 are cancelled. Claims 12 and 15-39 stand finally rejected as noted in the Office Action Summary mailed May 1, 2007. The rejection of Claims 12 and 15-39 is appealed. An Amendment After Final was filed August 1, 2007 wherein the specification was amended to address an objection. In the Amendment After Final no claim amendments were made. In an Advisory Action dated August 8, 2007 the Examiner stated that the Amendment After Final did not place the application was not in condition for allowance because: “[n]o claim amendments have been proposed. Claim 26 should refer to the bathtub functionally at lines 6-7. Application 09/593,724 differs from the instant application. Espey teaches the structure of the claims.” A Pre-Appeal Conference Request was filed on September 28, 2007. The panel maintained the rejection of Claims 12 and 15-39.

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IV. STATUS OF AMENDMENTS

Claim amendments from an Amendment and Response submitted March 13, 2007 have been entered. There have been no subsequent amendments to the application in response to the non-final Office Action Summary mailed December 21, 2006.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The following are explanations of the subject matter defined in each of the independent claims involved in the appeal, referring to the specification by page and line number, and to the drawings, by reference characters. Claims 12, 20, 26 and 33 are the independent claims of the application.

A. Independent Claim 12

1. Claim Language

12. An overflow assembly for a bathtub, comprising:

an overflow pipe having a flange and a sleeve that extends outwardly from the flange for receiving an inner end of a hollow fitting having an outer end and threads on an outer surface;

a nut having a threaded center opening threadably mounted on the fitting to exert pressure towards the flange; and

the nut having an outer periphery with a series of radially extending lugs which frictionally detachably engage an inner surface of a flange on a cap which fits over the nut, wherein the cap is selectively positioned on the nut to direct an overflow of water to the overflow pipe.

2. Explanation

With reference to Fig. 3 and the specification page 5, line 16 to page 6, line 17 (as amended by an Amendment & Response dated April 5, 2007), Claim 12 concerns an embodiment of the present invention wherein an overflow pipe (34) includes a flange. The flange (52) is positioned between a first end (104) of the overflow pipe (34), which is placed in fluidic communication with a drain pipe (38), and a second end (106) of the overflow pipe (34), which is placed at least within an end wall (24) of a bathtub (22). The second end (106) of the overflow pipe (34) is comprised of a sleeve (56). A hollow fitting (58), with a threaded outer surface (62), is interconnected to the sleeve (56). During interconnection of the overflow pipe (34) to the bathtub (22), the flange (52) is engaged onto an outer surface of the end wall (24) of the bathtub (22) which positions the hollow fitting (58) within an interior volume of the bathtub (22). See also Fig. 1. A nut (68) is threadably engaged onto the hollow fitting (58). As the nut (68) is tightened it will cooperate with the flange (52) to exert pressure on to the end wall (24) to securely interconnect the overflow pipe (34) to the



bathtub (22). The nut (68) includes a plurality of lugs (74) positioned therearound. The lugs (74) receive and frictionally detachably engage a flange (76) of the cap (78). The cap (78) has an opening (80) that allows water in the bathtub (22) to exit into the overflow pipe (34) in the event the water level within the bathtub (22) reaches a predetermined level.

B. Independent Claim 20

1. Claim Language

20. An overflow system for incorporation into a bathtub, comprising:

an overflow conduit having a first end and a second end with a flange positioned therebetween, the second end being spaced from the flange wherein the second end is adapted to be positioned at least partially within the bathtub; and

a fastening member positioned coaxially to an axis defined by the center of the second end and perpendicular to the plane bounded by the edge of the second end such that the fastening member cooperates with the flange to secure the overflow conduit to the bathtub, wherein the fastening member includes an outer periphery with at least one protrusion extending therefrom for frictionally detachably engagement with an inner surface of a flange on a cap that fits over the fastening member, and wherein the cap is selectively positioned on the fastening member to direct an overflow of water to the overflow conduit.

2. Explanation

With reference to Fig. 3 and the specification Page 5, line 16 to Page 6, line 17 (as amended in an Amendment & Response dated April 5, 2007), Claim 20 concerns an embodiment of the present invention wherein an overflow conduit (34) has a flange (52). The flange (52) is positioned between a first end (104) of the overflow conduit (34), which is placed in fluidic communication with a drain pipe (38), and a second end (106) of the overflow conduit (34), which is placed at least within an end wall (24) of a bathtub (22). During interconnection of the overflow conduit (34) to the bathtub (22), a fastening member (68) is aligned with the second end (106) of the overflow conduit (34) and cooperates with the flange (52) to exert pressure on the bathtub (22) to securely

interconnect the overflow conduit (34) to the bathtub (22). See Fig. 1. The fastening member(68) includes a plurality of protrusions (74) positioned about an outer periphery that allow for frictionally detachable engagement of a flange (76) of the cap (78). The cap (78) has an opening (80) that allows water in the bathtub (22) to exit into the overflow conduit (34) in the event the water level within the bathtub (22) reaches a predetermined level.

C. Independent Claim 26

1. Claim Language

26. An overflow assembly adapted to be used in conjunction with a bathtub, comprising:  
a duct with a non-continuous outer surface having a first end and a second end, the second end extending away from a protrusion that extends from the duct;  
a fitting for interconnection to the second end of the duct; and  
a means for fastening interconnected to the fitting and in compressive relationship with the protrusion of the duct with the bathtub therebetween, wherein the means for fastening includes an outer periphery with at least one protrusion extending therefrom for frictionally detachably engagement with an inner surface of a flange on a cap that fits over the means for fastening and wherein the cap is selectively positionable on the means for fastening to allow overflow water to enter the duct.

2. Explanation

With reference to Fig. 3 and the specification Page 5, line 16 to Page 6, line 17 (as amended in an Amendment & Response dated April 5, 2007), Claim 26 concerns an embodiment of the present invention wherein a duct (34) possesses a non-continuous outer surface. The duct (34) has a first end (104), which is placed in fluidic communication with a drain pipe (38), and a second end (106), which is placed at least within an end wall (24) of a bathtub (22). The outer surface of one embodiment of the invention extends outwardly to form a protrusion (52). A fitting (58) is interconnected to the second end (106) of the duct (34). A means for fastening (68) is engaged to the fitting (58) and cooperates with the protrusion (52) to exert pressure that securely interconnects

the duct (34) to the bathtub (22). In one embodiment of the present invention the means for fastening (68) is a nut element that has a threaded center bore that is compatible with an outer surface of the fitting (58). See also Page 6, line 5. The means for fastening (68) includes a plurality of protrusions (74) positioned about an outer periphery that allow for frictionally detachable engagement of a flange (76) of the cap (78). The cap (78) has an opening (80) that allows water in the bathtub (22) to exit into the overflow conduit (34) in the event the water level within the bathtub (22) reaches a predetermined level.

D. Independent Claim 33

1. Claim Language

33. An overflow system for incorporation into a bathtub, comprising:

an overflow pipe having a first end for interconnection to a pipe and a threaded second end with a flange positioned therebetween;

a nut threadably mounted on the second end to exert pressure towards the flange, the nut having an outer periphery with at least one radially extending lug that frictionally detachably engage an inner surface of a flange on a cap which fits over the nut and wherein the cap is selectively positioned on the nut to direct an overflow of water to the overflow pipe.

2. Explanation

With reference to Figs. 7 and 9 and the specification Page 7, line 3 to page 9, line 10 (as amended in an Amendment & Response dated April 5, 2007), Claim 33 concerns an embodiment of the present invention wherein an overflow pipe (34) with a flange (52). The flange (52) is positioned between an first end (108A), which is placed in fluidic communication with a drain pipe (38), and a threaded outer end (70A), which is placed at least within an end wall (24) of a bathtub (22). During interconnection of the overflow pipe (34) to the bathtub (22), the flange (52) is engaged onto an outer surface of the end wall (24) of the bathtub (22). A nut (68) is threadingly engaged onto the threaded outer end (70A) of the overflow pipe (34). As the nut (68) is tightened it will cooperate with the flange (52) to exert pressure on the end wall (24) to securely interconnect engage the overflow pipe (34) to the bathtub (22). The nut (68) includes a plurality of lugs (74) positioned

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therearound that receive and frictionally detachably engage a flange (76) of the cap (78). The cap (78) has an opening (80) that allows water in the bathtub (22) to exit into the overflow pipe (34) in the event the water level within the bathtub (22) reaches a predetermined level.

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

A. Whether Claim 26 is unpatentable under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

B. Whether Claims 20-23 and 33-37 are unpatentable under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,618,875 to Oropallo et al. ("Oropallo").

C. Whether Claims 20-22 and 33-36 are unpatentable under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,350,266 to Espey et al. ("Espey").

D. Whether Claims 20-22 and 33-36 are unpatentable under 35 U.S.C. §102(b) as being anticipated by Swiss Patent No. CH0346187 to Gebert ("Gebert").

E. Whether Claims 23-25 and 37-39 are unpatentable under 35 U.S.C. §103(a) as being obvious in light of a combination of Oropallo and U.S. Patent No. 6,192,531 to Fritz et al. ("Fritz").

F. Whether Claims 12, 15-18 and 26-31 are unpatentable under 35 U.S.C. §103(a) as being obvious in light of a combination of Oropallo and U.S. Patent Application Publication No. 2002/0032926 to Lewis ("Lewis").

G. Whether Claims 18, 19, 31 and 32 are unpatentable under 35 U.S.C. §103(a) as being obvious in light of a combination of Oropallo, Lewis and Fritz.

H. Whether Claims 23-25 and 37-39 are unpatentable under 35 U.S.C. §103(a) as being obvious in light of a combination of Gebert and Fritz.

I. Whether Claims 18, 19, 31 and 32 are unpatentable under 35 U.S.C. §103(a) as being obvious in light of a combination of Gebert, Lewis and Fritz.

VII. ARGUMENT

A. Rejection of Claim 26 under 35 U.S.C. §112.

Claim 26 has been rejected as being indefinite. More specifically, the Examiner has stated that it is unclear whether a “bathtub” is intended to be part of the claimed invention. The Examiner has also stated that no positive structural antecedent basis exists for the “bathtub”. Applicant has continually attempted to educate the Examiner that the bathtub is not part of the invention, alternatively, the “bathtub” is unclaimed subject matter that is associated with the claimed invention. Stated differently, the bathtub is the environment that the claimed subcombination of elements is *adapted to* be interconnected to.

The U.S. Court of Customs and Patent Appeals, the precursor of the Federal Circuit Court of Appeals, in In Re Dean followed the rationale that components that are “adapted to” be used in conjunction with claimed elements do not limit the claim. 291 F.2d 947 (C.C.P.A. 1961). In Re Dean concerned a patent application that claimed a camera having a shutter mechanism with a pair of electro-responsive devices that were “adapted to be individually coupled to said [shutter actuating] elements”. Id. at 949. The court disagreed with the decision of the Patent Office Board of Appeals that construed the words “adapted to be individually coupled to said [shutter-actuating] elements” to mean a combination of the timer with a shutter. The court stated: “[t]o state mere adaptability of these parts of the timer to perform the coupling function does not import into the claim the shutter to which they are coupled.” Id. at 951.

Accordingly, by stating that the claimed elements are “adapted to” be joined to a bathtub does not import the bathtub into the claim. Thus, in light of well-settled precedent, it is respectfully submitted that there can be no confusion as to whether the bathtub is part of the presented claims, and mention of the bathtub to indicate environment of the present invention is appropriate. Further, antecedent basis for the “bathtub” can be found in the preamble.

B. Rejection of Claims 20-23 and 33-37 under 35 U.S.C. §102(e) - Oropallo.

Claims 20-23 and 33-37 have been rejected as being anticipated by Oropallo. When any claim of an application is rejected, the inventor of the subject matter of the rejected claim may

submit an appropriate oath or declaration to establish invention of the subject matter of the rejected claims prior to the effective date of the reference. 37 C.F.R. §1.131. Withdrawal of this rejection was requested in light of a Declaration under 37 C.F.R. §1.131 that was filed on April 5, 2007. The Declaration relied upon engineering drawings to show conception of embodiments of the present invention and the filing of related U.S. Patent Application Serial Nos. 09/593,724, 10/229,533 and 10/222,062 to show diligence. The Examiner has stated that the Declaration was deficient in that diligence was not shown. Applicant disagrees. A review of the Declaration shows dates of relevant patent filings and pre-filing documentation of conception, including ongoing conduct which together provide compelling evidence of diligence.

Applicant directs the Board's attention to Naber v. Cricchi, 567 F.2d 382 (C.C.P.A 1977) wherein the court indicated that work in the preparation for filing related patent applications may suffice to show "reasonable diligence" as "work required to develop a first invention in order to develop or reduce to practice a second invention". The filing of U.S. Patent Application Serial Nos. 09/593,724 ("the '724 application" filed June 13, 2000), 10/222,062 (filed August 16, 2002) and 10/229,533 (filed August 28, 2002), which are related to the above-identified application, were submitted to show reasonable diligence.

In the Advisory Action dated August 10, 2007 the Examiner admitted that the '724 application shows a date of conception. The Examiner, however, concluded that "because 09/593,724 differs from the instant application" diligence was lacking. The Examiner is mistaken. The instant application and the '724 application need only be related. Id. The invention shown in the '724 application and the invention claimed in the instant application are clearly related. For example, the '724 discloses an overflow pipe, fitting and nut as generally found in the claims of the instant application. Comparison of the '724 application and the instant application will show that over time the invention disclosed in the '724 application was refined, wherein, for example, the nut element (shown in Fig. 3 of both the instant application and the '724 application) was altered. Furthermore, the instant application discloses a one-piece version of the invention disclosed in the '724 application wherein the elbow, the overflow pipe, and the fitting are joined. Therefore, it is respectfully asserted that the Declaration under 37 C.F.R. §1.131 of April 5, 2007 meets the

conception and diligence requirements needed to “swear behind” Oropallo, thereby removing Oropallo as prior art and requiring withdrawal of *all* rejections related to Oropallo.

C. Rejection of Claims 20-22 and 33-36 under 35 U.S.C. §102(b) - Espey.

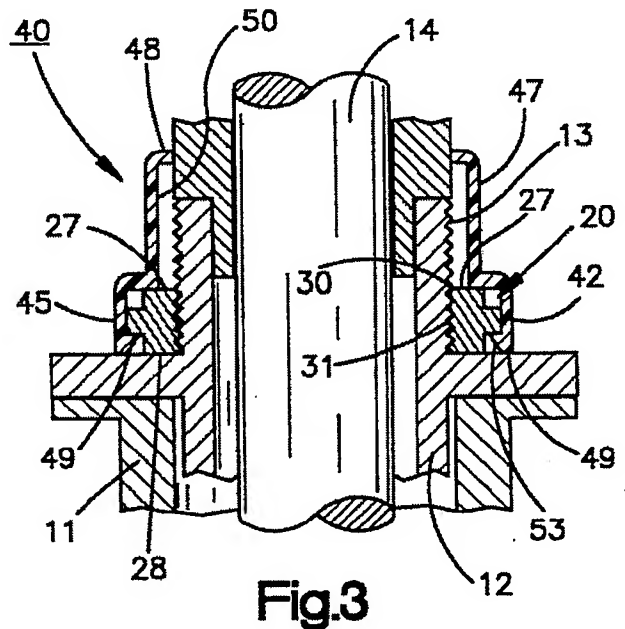
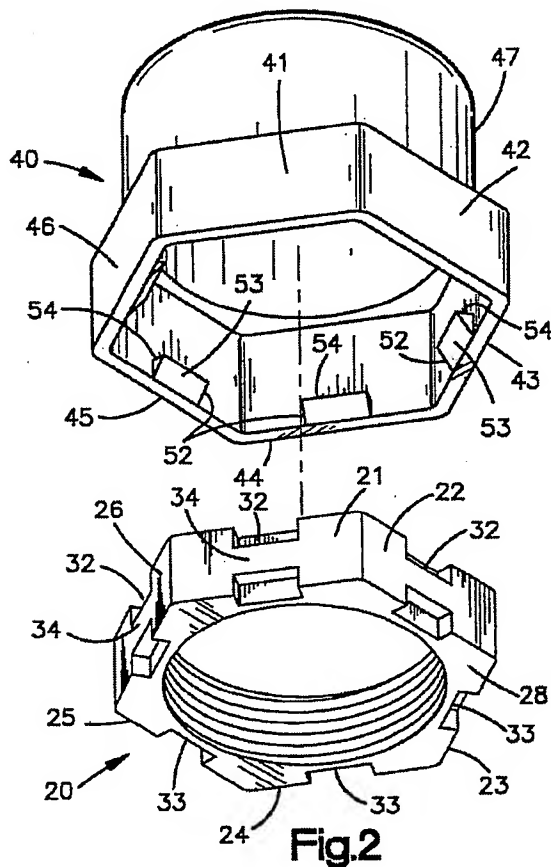
Claims 20-22 and 33-36 have been rejected as being anticipated by Espey. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

The Examiner stated in the Advisory Action dated August 10, 2007 that “Espey teaches the structure in the claims”. Applicant traversed this assertion during prosecution and continues to disagree with the Examiner. More specifically, there is no teaching that the “lugs” 21-26 of Espey, “frictionally detachably engage” the inner surface of a cap. Rather, Espey’s cap is fitted to the nut by pressing downwardly such that the projections 52 snap into slots 33. Reference is made to Figs. 2 and 3 and column 3, lines 27-43 of Espey, which states:

“Once the nut is tightened into position, such as on the tubular front wheel fork shaft of a bicycle, the cap is placed in axial alignment with the nut with its sidewalls 41-46 aligned with the side faces 21-26 of the nut. Then the cap is pressed downwardly over the nut in such a way that the projections 52 are received in the respective slot 32 of the side faces of the nut 20. As the cap is moved further, the ramps 53 of the projections 52 engage the bridge portions 34 of the nut so that further movement flexes the sidewalls 41-46 radially outwardly to permit the projections to move across the respective bridge.

Once the projections have moved in a [*sic*] axial direction sufficient to clear the bridge, the walls flex inwardly to bring the inward end faces 54 of the projections in tight contact with the end wall 36 of the respective second slot 33.”





Espey, thus discloses an interconnection scheme wherein the faces of the projections abut the end wall of the cap. This is not an interconnection that employs friction to hold two components together. One of skill in the art would appreciate that Espey's arrangement is not "frictionally detachable". After projections 52 are within slots 33, the cap 40 can not be easily removed. That is, the face 54 of each projection 52 would have to be forced from the each slot 33 or broken from the cap to permit the cap 40 to be removed from the nut 20. The face 54 abuts the surface of the slot 33 in such a manner that reversing the connection can not be achieved by simply overcoming frictional forces that interconnect adjacent components.

The concept of frictional detachment, conversely, as would be understood by one skilled in the art either includes engagement of at least two components in a slidably contacting relationship

wherein the geometry of the components and/or the surface texture of the components restrict movement of the components relative to each other. "Friction" is "a force that resists the relative motion or tendency to such motion of two bodies in contact." American Heritage Dictionary of the English language, 704 (4<sup>th</sup> ed. 2000). "Detatably" refers to an ability for two objects to "separate or unfasten; disconnect." Id. at 494. Thus "frictionally detachable" would refer to an interconnection scheme wherein two components are held together only by friction such that the frictional forces that hold the two components together can be "frictionally detached" by a force that overcomes the friction between the two components. For example, a common frictional engagement is an interference fit (often referred to a press fit), which does not employ abutting members to connect two components together, as is done in Espey.

Applicant contends that the present situation demonstrates an overly strict interpretation of a claim term that is not in accord with its ordinary and accustomed meaning. See, e.g. K-2 Corp. v. Salomon S.A., 191 F.3d 1356, 1365 (Fed. Cir. 1999) (the term "permanently" in the phrase "permanently affixed" did not encompass affixation via a removable screw.) In K-2, the Federal Circuit stated that "we would be hard pressed to describe anything as 'permanent' if that term is understood to require an infinite duration." The court concluded that claim construction is firmly anchored in reality by the understanding of those of ordinary skill in the art. A similar situation exists here: one of skill in the art would not understand an arrangement (i.e. the abutment of a face 54 with an adjacent surface of the slot 33) that requiring prying off of a component with a tool, for example, as would be required by Espey, to be "frictionally detachable". Since Espey does not disclose the claimed subject matter, withdrawal of the rejection is respectfully requested. It is also requested that the rejections to Claims 21, 22 and 34-36 also be withdrawn since these claims depend on an allowable claim. The rationale set forth above should be persuasive since upon review of the file history (Appeal Brief dated November 18, 2005, page 9) it will be appreciated that after similar statements related to the teachings of Espey were previously made, the above-identified application was allowed.

D. Rejection of Claims 20-22 and 33-36 under 35 U.S.C. §102(b) - Gebert.

Claims 20-22 and 33-36 have been rejected as being anticipated by Gebert. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Independent Claims 20 and 33 require a fastening member, such as a nut, that includes at least one protrusion (e.g. lug) extending therefrom for frictionally detachably engagement with a cap. Gebert discloses a plate positioned on the inner surface of a bathtub that receives a cap. In addition, the plate of Gebert does not possess the required protrusions that engage the cap as required by Claim 20.

At least for these reasons, it is respectfully requested that the rejections to Claims 20 and 33, and their dependants, Claims 21, 22 and 34-36 be withdrawn.

E. Rejection of Claim 23-25 and 37-39 under 35 U.S.C. §103(a) - Oropallo and Fritz.

Claims 23-25 and 37-39 have been rejected as being obvious in light of a combination of Oropallo and Fritz. In order to support an obvious rejection all of the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Oropallo was cited as supplying the majority of the claimed elements. Fritz was cited as supplying a closure device (or member).

As demonstrated above, Oropallo is not a proper prior art reference and therefore cannot be relied upon by the Examiner to reject the present claims. Again, when any claim of an application is rejected, the inventor of the subject matter of the rejected claim may submit an appropriate oath or declaration to establish invention of the subject matter of the rejected claims prior to the effective date of the reference. 37 C.F.R. §1.131. Withdrawal of this rejection was requested in light of a Declaration under 37 C.F.R. §1.131 that was filed on April 5, 2007. The Declaration relied upon engineering drawings to show conception of embodiments of the present invention and the filing of related U.S. Patent Application Serial Nos. 09/593,724, 10/229,533 and 10/222,062 to show diligence. The Examiner has stated that the Declaration was deficient in that diligence was not

shown. Applicant disagrees. A review of the Declaration shows dates of relevant patent filings and pre-filing documentation of conception, including ongoing conduct which together provide compelling evidence of diligence.

Applicant directs the Board's attention to Naber v. Cricchi, 567 F.2d 382 (C.C.P.A 1977) wherein the court indicated that work in the preparation for filing related patent applications may suffice to show "reasonable diligence" as "work required to develop a first invention in order to develop or reduce to practice a second invention". The filing of U.S. Patent Application Serial Nos. 09/593,724 ("the '724 application" filed June 13, 2000), 10/222,062 (filed August 16, 2002) and 10/229,533 (filed August 28, 2002), which are related to the above-identified application, were submitted to show reasonable diligence.

In the Advisory Action dated August 10, 2007 the Examiner admitted that the '724 application shows a date of conception. The Examiner, however, concluded that "because 09/593,724 differs from the instant application" diligence was lacking. The Examiner is mistaken. The instant application and the '724 application need only be related. Id. The invention shown in the '724 application and the invention claimed in the instant application are clearly related. For example, the '724 discloses an overflow pipe, fitting and nut as generally found in the claims of the instant application. Comparison of the '724 application and the instant application will show that over time the invention disclosed in the '724 application was refined, wherein, for example, the nut element (shown in Fig. 3 of both the instant application and the '724 application) was altered. Furthermore, the instant application discloses a one-piece version of the invention disclosed in the '724 application wherein the elbow, the overflow pipe, and the fitting are joined. Therefore, it is respectfully asserted that the Declaration under 37 C.F.R. §1.131 of April 5, 2007 meets the conception and diligence requirements needed to "swear behind" Oropallo, thereby removing Oropallo as prior art and requiring withdrawal of *all* rejections related to Oropallo.

The Supreme Court has stated that the analysis supporting an obvious rejection should be made explicit. KSR International Co. v. Teleflex, Inc., 127 S. Ct. 1727 (2007). Further, "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of

obviousness. In re Kahn, 441 F.3d 977, 988 (Fed. Cir. 2006). Here, the Examiner provided no such rationale.

Since Oropallo is not prior art that can be combined with Fritz to support this rejection, and/or since the Examiner did not supply the requisite rationale for combining Oropallo and Fritz, withdrawal of the rejection to Claims 23-25 and 37-39 is respectfully requested.

F. Rejection of Claims 12, 15-18 and 26-31 under 35 U.S.C. §103(a) - Oropallo and Lewis.

Claims 12, 15-18 and 26-31 have been rejected as being obvious in light of a combination of Oropallo and Lewis. In order to support an obvious rejection all of the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Oropallo was cited as supplying the majority of the claimed elements. Lewis was cited as supplying the claimed fitting.

As demonstrated above, Oropallo is not a proper prior art reference and therefore cannot be relied upon by the Examiner to reject the present claims. Again, when any claim of an application is rejected, the inventor of the subject matter of the rejected claim may submit an appropriate oath or declaration to establish invention of the subject matter of the rejected claims prior to the effective date of the reference. 37 C.F.R. §1.131. Withdrawal of this rejection was requested in light of a Declaration under 37 C.F.R. §1.131 that was filed on April 5, 2007. The Declaration relied upon engineering drawings to show conception of embodiments of the present invention and the filing of related U.S. Patent Application Serial Nos. 09/593,724, 10/229,533 and 10/222,062 to show diligence. The Examiner has stated that the Declaration was deficient in that diligence was not shown. Applicant disagrees. A review of the Declaration shows dates of relevant patent filings and pre-filing documentation of conception, including ongoing conduct which together provide compelling evidence of diligence.

Applicant directs the Board's attention to Naber v. Cricchi, 567 F.2d 382 (C.C.P.A 1977) wherein the court indicated that work in the preparation for filing related patent applications may suffice to show "reasonable diligence" as "work required to develop a first invention in order to develop or reduce to practice a second invention". The filing of U.S. Patent Application Serial Nos. 09/593,724 ("the '724 application" filed June 13, 2000), 10/222,062 (filed August 16, 2002) and

10/229,533 (filed August 28, 2002), which are related to the above-identified application, were submitted to show reasonable diligence.

In the Advisory Action dated August 10, 2007 the Examiner admitted that the '724 application shows a date of conception. The Examiner, however, concluded that "because 09/593,724 differs from the instant application" diligence was lacking. The Examiner is mistaken. The instant application and the '724 application need only be related. *Id.* The invention shown in the '724 application and the invention claimed in the instant application are clearly related. For example, the '724 discloses an overflow pipe, fitting and nut as generally found in the claims of the instant application. Comparison of the '724 application and the instant application will show that over time the invention disclosed in the '724 application was refined, wherein, for example, the nut element (shown in Fig. 3 of both the instant application and the '724 application) was altered. Furthermore, the instant application discloses a one-piece version of the invention disclosed in the '724 application wherein the elbow, the overflow pipe, and the fitting are joined. Therefore, it is respectfully asserted that the Declaration under 37 C.F.R. §1.131 of April 5, 2007 meets the conception and diligence requirements needed to "swear behind" Oropallo, thereby removing Oropallo as prior art and requiring withdrawal of *all* rejections related to Oropallo.

The Supreme Court has stated that the analysis supporting an obvious rejection should be made explicit. KSR International Co. v. Teleflex, Inc., 127 S. Ct. 1727 (2007). Further, "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. In re Kahn, 441 F.3d 977, 988 (Fed. Cir. 2006). Here, the Examiner provided no such rationale.

Since Oropallo is not prior art that can be combined with Lewis to support this rejection Moreover, since the Examiner did not supply the requisite rationale for combining Oropallo and Lewis, withdrawal of the rejection to Claims 12, 15-18 and 26-31 is respectfully requested. Again, the Examiner merely concluded that it would have been obvious to combine Oropallo and Lewis without supporting arguments or facts.

G. Rejection of Claims 18, 19, 31 and 32 under 35 U.S.C. §103(a) - Oropallo, Lewis and Fritz.

Claims 18, 19, 31 and 32 have been rejected as being obvious in light of a combination of Oropallo, Lewis and Fritz. In order to support an obvious rejection all of the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Oropallo was cited as supplying the majority of the claimed elements. Lewis was cited as supplying the claimed fitting and Fritz was cited as supplying the claimed diaphragm.

As demonstrated above Oropallo is not a proper prior art reference and therefore cannot be relied upon by the Examiner to reject the present claims. Again, when any claim of an application is rejected, the inventor of the subject matter of the rejected claim may submit an appropriate oath or declaration to establish invention of the subject matter of the rejected claims prior to the effective date of the reference. 37 C.F.R. §1.131. Withdrawal of this rejection was requested in light of a Declaration under 37 C.F.R. §1.131 that was filed on April 5, 2007. The Declaration relied upon engineering drawings to show conception of embodiments of the present invention and the filing of related U.S. Patent Application Serial Nos. 09/593,724, 10/229,533 and 10/222,062 to show diligence. The Examiner has stated that the Declaration was deficient in that diligence was not shown. Applicant disagrees. A review of the Declaration shows dates of relevant patent filings and pre-filing documentation of conception, including ongoing conduct which together provide compelling evidence of diligence.

Applicant directs the Board's attention to Naber v. Cricchi, 567 F.2d 382 (C.C.P.A 1977) wherein the court indicated that work in the preparation for filing related patent applications may suffice to show "reasonable diligence" as "work required to develop a first invention in order to develop or reduce to practice a second invention". The filing of U.S. Patent Application Serial Nos. 09/593,724 ("the '724 application" filed June 13, 2000), 10/222,062 (filed August 16, 2002) and 10/229,533 (filed August 28, 2002), which are related to the above-identified application, were submitted to show reasonable diligence.

In the Advisory Action dated August 10, 2007 the Examiner admitted that the '724 application shows a date of conception. The Examiner, however, concluded that "because 09/593,724 differs from the instant application" diligence was lacking. The Examiner is mistaken. The instant application and the '724 application need only be related. Id. The invention shown in

the '724 application and the invention claimed in the instant application are clearly related. For example, the '724 discloses an overflow pipe, fitting and nut as generally found in the claims of the instant application. Comparison of the '724 application and the instant application will show that over time the invention disclosed in the '724 application was refined, wherein, for example, the nut element (shown in Fig. 3 of both the instant application and the '724 application) was altered. Furthermore, the instant application discloses a one-piece version of the invention disclosed in the '724 application wherein the elbow, the overflow pipe, and the fitting are joined. Therefore, it is respectfully asserted that the Declaration under 37 C.F.R. §1.131 of April 5, 2007 meets the conception and diligence requirements needed to "swear behind" Oropallo, thereby removing Oropallo as prior art and requiring withdrawal of *all* rejections related to Oropallo.

The Supreme Court has stated that the analysis supporting an obvious rejection should be made explicit. KSR International Co. v. Teleflex, Inc., 127 S. Ct. 1727 (2007). Further, "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rationale underpinning to support the legal conclusion of obviousness. In re Kahn, 441 F.3d 977, 988 (Fed. Cir. 2006). Here, the Examiner provided no such rationale.

Since Oropallo is not prior art that can be combined with Lewis and Fritz to support this rejection, and/or since the Examiner did not supply the requisite rationale for combining Oropallo, Lewis and Fritz, withdrawal of the rejection to Claims 18, 19, 31 and 32 is respectfully requested.

H. Rejection of Claims 23-25 and 37-39 under 35 U.S.C. §103(a) - Gebert and Fritz.

Claims 23-25 and 37-39 have been rejected as being obvious in light of a combination of Gebert and Fritz. In order to support an obvious rejection all of the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Gebert was cited as supplying the majority of the claimed elements. Fritz was cited as supplying a diaphragm.

Independent Claims 20 and 33 require a fastening member, such as a nut, that includes at least one protrusion (e.g. lug) extending therefrom for frictionally detachably engagement with a cap. Gebert discloses a plate positioned on the inner surface of a bathtub that receives a cap. In addition, the plate of Gebert does not possess the required protrusions that engage the cap as required by



Claim 20.

The Supreme Court has stated that the analysis supporting an obvious rejection should be made explicit. KSR International Co. v. Teleflex, Inc., 127 S. Ct. 1727 (2007). Further, “rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rationale underpinning to support the legal conclusion of obviousness. In re Kahn, 441 F.3d 977, 988 (Fed. Cir. 2006). Here, the Examiner provided no such rationale.

Since Gerbert does not disclose a cap that frictionally engages the lugs or protrusions of a fastening member or nut, as found in independent Claims 20 and 33, and/or since the Examiner did not supply the requisite rationale for combining Gebert and Fritz, withdrawal of the rejection to Claims 23-25 and 37-39 is respectfully requested.

I. Rejection of Claims 18, 19, 31 and 32 under 35 U.S.C. §103(a) - Gebert, Lewis and Fritz. Gebert was cited as supplying the majority of the claimed elements. Lewis was cited as supplying the claimed fitting and Fritz was cited as supplying the claimed diaphragm.

Claims 18, 19, 31 and 32 have been rejected as being obvious in light of a combination of Gerbert, Lewis and Fritz. Gebert was cited as supplying the majority of the claimed elements. Lewis was cited as supplying the claimed fitting and Fritz was cited as supplying the claimed diaphragm. In order to support an obvious rejection all of the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

Independent Claims 20 and 33 require a fastening member, such as a nut, that includes at least one protrusion (e.g. lug) extending therefrom for frictionally detachable engagement with a cap. Gebert discloses a plate positioned on the inner surface of a bathtub that receives a cap. In addition, the plate of Gebert does not possess the required protrusions that engage the cap as required by Claim 20.

The Supreme Court has stated that the analysis supporting an obvious rejection should be made explicit. KSR International Co. v. Teleflex, Inc., 127 S. Ct. 1727 (2007). Further, “rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rationale underpinning to support the legal conclusion of obviousness. In re Kahn, 441 F.3d 977, 988 (Fed. Cir. 2006). Here, the Examiner provided no such

rationale.

As outlined above, neither Gerbert, Lewis or Fritz disclose a cap that frictionally engages the lugs or protrusions of a fastening member or nut, as found in parent Claims 12 and 26, and/or since the Examiner did not supply the requisite rationale for combining Gebert, Lewis and Fritz, withdrawal of the rejections to Claims 18, 19, 31 and 32 is respectfully requested.

VIII. CLAIMS APPENDIX

12. An overflow assembly for a bathtub, comprising:

an overflow pipe having a flange and a sleeve that extends outwardly from the flange for receiving an inner end of a hollow fitting having an outer end and threads on an outer surface;

a nut having a threaded center opening threadably mounted on the fitting to exert pressure towards the flange; and

the nut having an outer periphery with a series of radially extending lugs which frictionally detachably engage an inner surface of a flange on a cap which fits over the nut, wherein the cap is selectively positioned on the nut to direct an overflow of water to the overflow pipe.

15. The assembly of claim 12 wherein the flange of the cap has a notch that is selectively positioned to direct the overflow of water into the overflow pipe.

16. The assembly of claim 15 wherein the notch is moved to at least a six o'clock position when the cap is mounted to the nut for directing the overflow of water into the overflow pipe.

17. The assembly of claim 12, wherein the overflow pipe has a first end and a second end wherein the flange is positioned therebetween, and wherein the second end is spaced from the flange such that the second end is adapted to be positioned at least partially within the bathtub.

18. The assembly of claim 12 wherein the hollow fitting includes a closure member selectively interconnected to an end thereof.

19. The assembly of claim 17, wherein the closure member is a diaphragm.
20. An overflow system for incorporation into a bathtub, comprising:  
an overflow conduit having a first end and a second end with a flange positioned therebetween, the second end being spaced from the flange wherein the second end is adapted to be positioned at least partially within the bathtub; and  
a fastening member positioned coaxially to an axis defined by the center of the second end and perpendicular to the plane bounded by the edge of the second end such that the fastening member cooperates with the flange to secure the overflow conduit to the bathtub, wherein the fastening member includes an outer periphery with at least one protrusion extending therefrom for frictionally detachably engagement with an inner surface of a flange on a cap that fits over the fastening member, and wherein the cap is selectively positioned on the fastening member to direct an overflow of water to the overflow conduit.
21. The system of claim 20 wherein the at least one protrusion is a radially extending lug.
22. The system of claim 20 wherein the second end and the fastening member are threaded.
23. The system of claim 20 wherein the second end of the overflow conduit is associated with a selectively removable closure member.
24. The assembly of claim 23, wherein the closure device is a diaphragm.

25. The assembly of claim 23 wherein the closure device is at least one of fused, hermetically sealed, and rigidly attached.

26. An overflow assembly adapted to be used in conjunction with a bathtub, comprising:  
a duct with a non-continuous outer surface having a first end and a second end, the second end extending away from a protrusion that extends from the duct;  
a fitting for interconnection to the second end of the duct; and  
a means for fastening interconnected to the fitting and in compressive relationship with the protrusion of the duct with the bathtub therebetween, wherein the means for fastening includes an outer periphery with at least one protrusion extending therefrom for frictionally detachably engagement with an inner surface of a flange on a cap that fits over the means for fastening and wherein the cap is selectively positionable on the means for fastening to allow overflow water to enter the duct.

27. The assembly of claim 26 wherein the at least one protrusion is a radially extending lug.

28. The assembly of claim 26 wherein the compressive relationship comprises a tight engagement between the protruded portion of the duct and the means for fastening.

29. The assembly of claim 26 wherein the fitting includes threads positioned on an outer diameter thereof for engagement with threads positioned on an inner diameter of the means for fastening.

30. The assembly of claim 26, wherein the protrusion of the duct is a flange positioned between the first end and the second end of the duct, the second end being spaced from the flange wherein the second end is adapted to be positioned at least partially within the bathtub.

31. The assembly of claim 26 wherein the fitting includes a closure member selectively interconnected to an end thereof.

32. The assembly of claim 31, wherein the closure member is a diaphragm.

33. An overflow system for incorporation into a bathtub, comprising:  
an overflow pipe having a first end for interconnection to a pipe and a threaded second end with a flange positioned therebetween;  
a nut threadably mounted on the second end to exert pressure towards the flange, the nut having an outer periphery with at least one radially extending lug that frictionally detachably engage an inner surface of a flange on a cap which fits over the nut and wherein the cap is selectively positioned on the nut to direct an overflow of water to the overflow pipe.

34. The assembly of claim 33 wherein the flange of the cap has a notch that is selectively positionable to direct the overflow of water into the overflow pipe.

35. The assembly of claim 33 wherein the notch is moved to at least a six o'clock position when the cap is mounted to the nut for directing the overflow of water into the overflow pipe.

36. The assembly of claim 33, wherein the second end is spaced from the flange such that it is adapted to be positioned at least partially within the bathtub.

37. The assembly of claim 33 further including a closure member operatively associated with the second end.

38. The assembly of claim 37, wherein the closure member is a diaphragm.

39. The assembly of claim 38 wherein the closure device is at least one of fused, hermetically sealed, and rigidly attached.

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*Application No. 10/674,862*

IX. EVIDENCE APPENDIX



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re the Application of:	)	Group Art Unit: 3751
	)	
BALL	)	Examiner: Robert M. Fetsuga
	)	
Serial No.: 10/674,862	)	Confirmation No.: 6280
	)	
Filed: September 30, 2003	)	<u>DECLARATION PURSUANT</u>
	)	<u>TO 37 CFR §1.131</u>
Atty. File No.: 5564-153	)	
	)	
For: "Overflow Assembly For	)	<u>Filed Electronically</u>
Bathtubs and the Like"	)	

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

I, William T. Ball declare as follows:

1. I am the inventor of the subject matter above-identified U.S. Patent Application Serial No. 10/674,862, filed September 30, 2003, which is a continuation-in-part of U.S. Patent Application Serial Nos. 10/229,533, filed August 28, 2002, now U.S. Patent No. 6,675,406, and 10/222,062, filed August 16, 2002, now U.S. Patent No. 6,637,050. This Declaration is submitted pursuant to 37 CFR § 1.131 in response to an Office Action dated December 21, 2006 in which U.S. Patent No. 6,618,875 to Oropallo et al. ("Oropallo") having a filing date, and effective prior art date, of March 28, 2002, was cited pursuant to 35 USC § 102(e) as being anticipatory of Claims 20-23 and 33-37 of the above-identified application. In addition, Oropallo has been cited in combination with other previously-cited references in support of various obviousness rejections of Claims 12, 15-18, 19, 23-25, 26-32 and 37-39.

2. I have included herewith the exhibits outlined below that evidence a date of conception of at least February 9, 2000 and diligence between February 9, 2000 and actual or constructive reduction to practice of claimed elements of the invention.

3. Exhibits A and B illustrate that the conception of embodiments of the present invention found in independent Claims 12, 20 and 26 was at least February 9, 2000. More specifically, the figures show a hollow fitting for interconnection to an overflow pipe, wherein the hollow fitting is adapted to receive a nut that cooperates with a flange on the overflow pipe to secure the overflow pipe to a section of a bathtub.

4. Exhibit C illustrates that the conception of embodiments of the present invention found in independent Claim 33 was at least February 9, 2000. More specifically, attention is drawn to attorney notes on the figure that indicate that the hollow fitting and the overflow pipe was contemplated as being constructed in one piece.

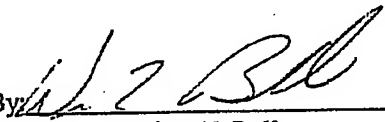
5. Exhibit D is U.S. Patent Application Serial No. 09/593,724 that illustrates that aspects of embodiments of the present invention were constructively reduced to practice on June 13, 2000. The application was abandoned on October 15, 2002 in favor of U.S. Patent Application Serial No. 10/229,533, filed August 28, 2002, now U.S. Patent No. 6,675,406.

Exhibit	Description	Relied Upon to Show	Date
A	Engineering Drawings	Conception of multi-piece embodiment of the present invention	2/9/2000
B	Engineering Drawings	Conception of multi-piece embodiment of the present invention	2/14/2000
C	Annotated Engineering Drawings	Conception of one-piece embodiment of the present invention	Prior to June 13, 2000
D	U.S. Patent Application 09/593,724	Constructive reduction of practice of embodiments of the present invention	6/13/2000

In light of the foregoing I affirmatively assert that I was in possession of the subject matter disclosed and claimed in the above-identified prior to the filing date of Oropallo. I also assert that I, and WCM Industries the assignee of the above-identified invention, have been diligent in seeking patent protection for the embodiments of the invention disclosed and claimed in the instant

application and those related thereto as evidenced by the filing of U.S. Patent Application Serial Nos. 09/593,724, 10/229,533 and 10/222,062, which are related to the above-identified application.

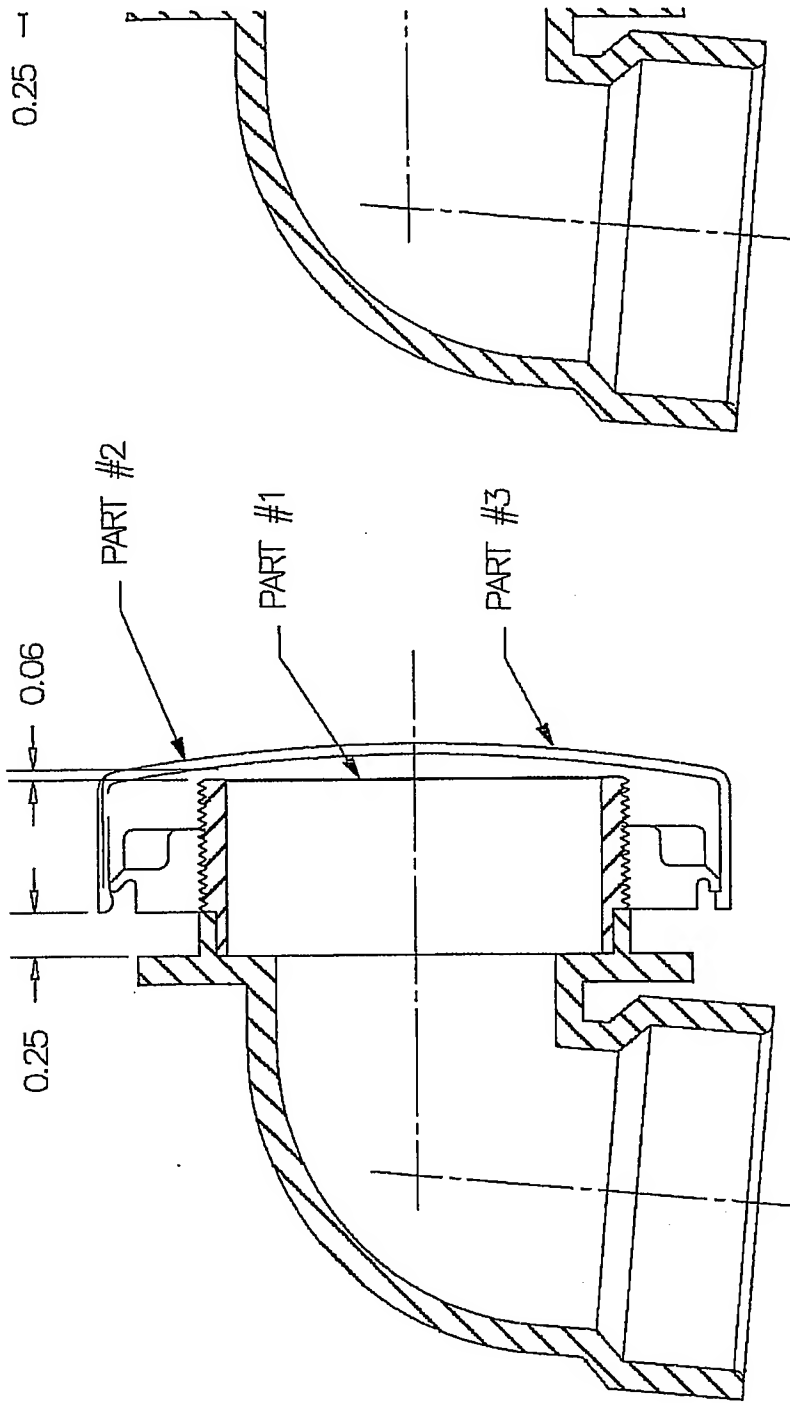
I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

By:   
William T. Ball

Date: 3/12/07

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**Exhibit A**

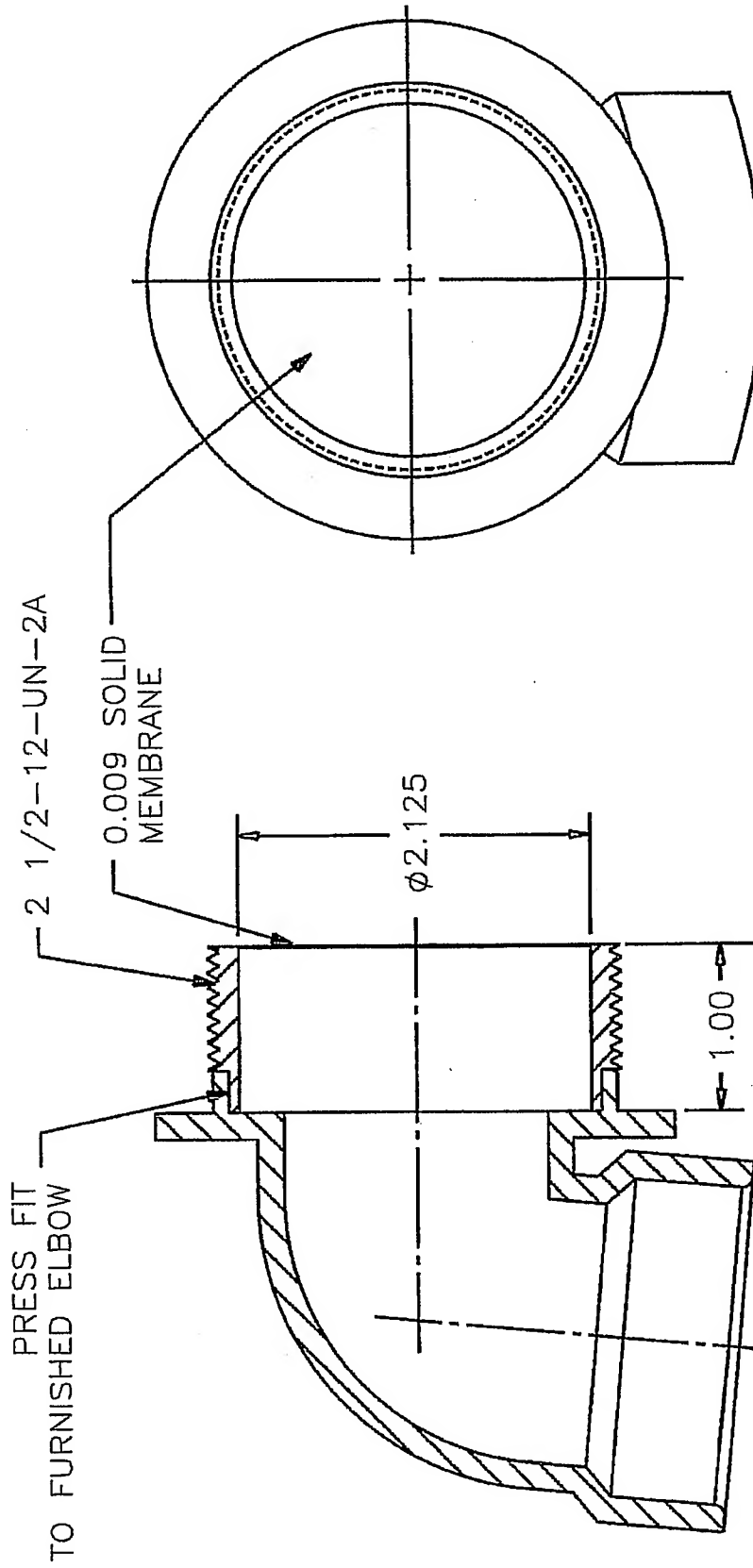


WATCO  
OVERFLOW ELBOW PROTOTYPE  
2/9/2000 bc

OVERFLOW  
2/9/

---

**Exhibit B**



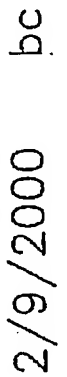
REFERENCE DRAWING #A11009

WOODFORD  
PART #1  
2/14/00

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**Exhibit C**





2/9/2000 bc.

2/9/2000 bc.

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**Exhibit D**

06/13/00  
1c813 U.S. PTO

06-15-00

A

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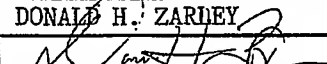
Approved for use through 09/30/2000. OMB 0651-0032  
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

<b>UTILITY PATENT APPLICATION TRANSMITTAL</b> <small>(Only for new nonprovisional applications under 37 C.F.R. § 1.53(b))</small>	Attorney Docket No.	P04447US9
	First Inventor or Application Identifier	William T. Ball
	Title	METHOD & MEANS FOR AN OVERFLOW ASSEMBLY TO BATH TUBS.....
	Express Mail Label No.	EL515384827US

<b>APPLICATION ELEMENTS</b> <small>See MPEP chapter 600 concerning utility patent application contents.</small>	<b>ADDRESS TO:</b> Assistant Commissioner for Patents Box Patent Application Washington, DC 20231	
1. <input checked="" type="checkbox"/> * Fee Transmittal Form (e.g., PTO/SB/17) <small>(Submit an original and a duplicate for fee processing)</small>	5. <input type="checkbox"/> Microfiche Computer Program (Appendix)	
2. <input checked="" type="checkbox"/> Specification [Total Pages 9] <small>(preferred arrangement set forth below)</small> <ul style="list-style-type: none"><li>- Descriptive title of the Invention</li><li>- Cross References to Related Applications</li><li>- Statement Regarding Fed sponsored R &amp; D</li><li>- Reference to Microfiche Appendix</li><li>- Background of the Invention</li><li>- Brief Summary of the Invention</li><li>- Brief Description of the Drawings (if filed)</li><li>- Detailed Description</li><li>- Claim(s)</li><li>- Abstract of the Disclosure</li></ul>	6. Nucleotide and/or Amino Acid Sequence Submission <small>(if applicable, all necessary)</small> <ul style="list-style-type: none"><li>a. <input type="checkbox"/> Computer Readable Copy</li><li>b. <input type="checkbox"/> Paper Copy (identical to computer copy)</li><li>c. <input type="checkbox"/> Statement verifying identity of above copies</li></ul>	
3. <input checked="" type="checkbox"/> Drawing(s) (35 U.S.C. 113) [Total Sheets 5]	<b>ACCOMPANYING APPLICATION PARTS</b> 7. <input type="checkbox"/> Assignment Papers (cover sheet & document(s)) 8. <input type="checkbox"/> 37 C.F.R. § 3.73(b) Statement of Power of Attorney <small>(when there is an assignee)</small> 9. <input type="checkbox"/> English Translation Document (if applicable) 10. <input type="checkbox"/> Information Disclosure Statement (IDS)/PTO-1449 [Copies of IDS Citations] 11. <input type="checkbox"/> Preliminary Amendment 12. <input checked="" type="checkbox"/> Return Receipt Postcard (MPEP 503) <small>(Should be specifically itemized)</small> 13. <input checked="" type="checkbox"/> * Small Entity Statement filed in prior application, Status still proper and desired <small>(PTO/SB/09-12)</small> 14. <input type="checkbox"/> Certified Copy of Priority Document(s) <small>(if foreign priority is claimed)</small> 15. <input checked="" type="checkbox"/> Other: Express Mail Label No. EL515384827US	
4. Oath or Declaration [Total Pages 2] <ul style="list-style-type: none"><li>a. <input checked="" type="checkbox"/> Newly executed (original or copy)</li><li>b. <input type="checkbox"/> Copy from a prior application (37 C.F.R. § 1.63(d)) <small>(for continuation/divisional with Box 16 completed)</small><ul style="list-style-type: none"><li>i. <input type="checkbox"/> <b>DELETION OF INVENTOR(S)</b> Signed statement attached deleting inventor(s) named in the prior application, see 37 C.F.R. §§ 1.63(d)(2) and 1.33(b).</li></ul></li></ul>		
<small>* NOTE FOR ITEMS 1 &amp; 13: IN ORDER TO BE ENTITLED TO PAY SMALL ENTITY FEES, A SMALL ENTITY STATEMENT IS REQUIRED (37 C.F.R. § 1.27), EXCEPT IF ONE FILED IN A PRIOR APPLICATION IS RELIED UPON (37 C.F.R. § 1.28).</small>		
16. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in a preliminary amendment: <input type="checkbox"/> Continuation <input type="checkbox"/> Divisional <input type="checkbox"/> Continuation-in-part (CIP) of prior application No: _____ Prior application information: Examiner _____ Group / Art Unit: _____ <b>For CONTINUATION or DIVISIONAL APPS only:</b> The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 4b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.		

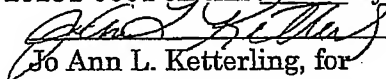
<b>17. CORRESPONDENCE ADDRESS</b>					
<input checked="" type="checkbox"/> Customer Number or Bar Code Label 22885		22885 <small>(Insert Customer No. or Attach bar code label here)</small>			
or <input type="checkbox"/> Correspondence address below					
Name	DONALD H. ZARLEY ZARLEY MCKEE THOMTE VOORHEES & SEASE				
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Applicant or Patentee: WILLIAM T. BALL

Serial No. or Patent No.:

**Received or Issued:**

**METHOD AND MEANS FOR AN OVERFLOW ASSEMBLY TO BATHTUBS AND THE LIKE**

**VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY  
STATUS (37 CFR 1.9(f) AND 1.27(c)) - SMALL BUSINESS CONCERN**

I hereby declare that I am

- ☐ the owner of the small business concern identified below:
- ☒ an official of the small business concern empowered to act on behalf of the concern identified below:

NAME OF CONCERN WCM Industries, Inc.

ADDRESS OF CONCERN 2121 Waynoka Road, Colorado Springs, CO 80915

I hereby declare that the above-identified small business concern qualifies as a small business concern as defined in 13 CFR 121.3-18, and reproduced in 37 CFR 1.9(d), for purposes of paying reduced fees under Section 41(a) and (b) of Title 35, United States Code, in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement, (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time, part-time or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third party or parties controls or has the power to control both.

\_\_\_\_\_ hereby declare that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the invention, entitled METHOD AND MEANS FOR AN OVERFLOW ASSEMBLY TO BATHTUBS AND THE LIKE by inventor(s). William T. Ball, described in

- [X] the specification filed herewith.  
 [ ] application Serial No. \_\_\_\_\_, filed \_\_\_\_\_  
 [ ] Patent No. \_\_\_\_\_, issued \_\_\_\_\_.

If the rights held by the above identified small business concern are not exclusive, each individual, concern or organization having rights in the invention is listed below\* and no rights to the invention are held by any person, other than the inventor, who would not qualify as an independent inventor under 37 CFR 1.9(c) if that person made the invention, or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

*\*NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27).*

FULL NAME

ADDRESS

ADDRESS \_\_\_\_\_  
☐ INDIVIDUAL                      ☐ SMALL BUSINESS CONCERN                      ☐ NONPROFIT ORGANIZATION

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of payment, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b)).

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

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SIGNATURE [Signature] DATE MAR 9, 2000

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**Abstract**

In new building construction, the plumbers prefer not to put the finished closure valves in the bottom of tubs, or the finished decorative plate over the overflow outlet at the end of the tub until the project is finished because these elements will be often damaged as the construction project is brought to a close. Further, the piping for both of the outlets needs to be checked for leaks before the inspection process is completed. The test involves running water down the vent for the drain until it reaches a level above the tub and the tester then determines whether any of the piping leaks. Thus, when the testing operation arrives, a plug is put in the bottom drain of the tub and some sort of seal plate is placed at the end of the tub on the overflow outlet.

A more recent version is shown in the U.S. Patent 5,890,241 in which an overflow system for a bathtub has an

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overflow port and has a drain pipe in connection with the overflow port. A flexible diaphragm is imposed over overflow drain pipe secured to and engages the inner face of the sleeve. Screws extend through the plate which has a center opening. A screw extends through the plate to hold the cap in place. The cap has a conventional side rim extending around the plate and diaphragm. A cut-out portion of the cap provides for water flow. The diaphragm seals the overflow pipe when the system is being tested for leaks with pressurized fluid. Following the tests, when the fluid is removed, the diaphragm is cut or slashed to open the overflow port to provide fluid flow. While this device serves the intended function, it is expensive to make and more cumbersome to assemble.

It is, therefore, a principal object of the invention to provide a method and a means for an overflow assembly for bathtubs and the like which will safeguard the overflow system during construction; prepare the system for testing; and facilitate the final installation of the bathtub hardware.

A further object of the invention is to facilitate the testing procedure of the overflow system before the final installation has taken place, and to permit the assembly of parts without the use of screws, screw holes, and the like.

These and other objects will be apparent to those skilled in the art.

#### SUMMARY OF THE INVENTION

An overflow system in the bathtub has an overflow port and has a drain pipe in connection with the overflow port. A threaded flange has a stub shoulder on one end which is forced-fitted into a circular sleeve on the overflow port. The threaded flange has exterior threads on its outer surface and a thin diaphragm secured to the end thereof opposite to the stub shoulder. A large sealing washer embraces the outside of the circular flange on the overflow port and extends partially over the threads of the threaded flange. A

large internally threaded nut is threadably mounted on the outer end of the threaded flange and compresses the sealing washer against a vertical flange on the port to seal the connection between the threaded flange and the port. A decorative cap is frictionally snapped into engagement with protrusions on the outer surface of the nut. The cap can be removed if needed to permit the plumber to gain access to the diaphragm to cut it open for fluid flow after they system has been tested for leaks, or put in place after the cut takes place.

#### BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a partial perspective view of a conventional bathtub environment utilizing the invention of this application;

Fig. 2 is a large scale section view taken on line 2-2 of Fig. 1;

Fig. 3 is a perspective exploded view of the cap, nut, washer, membrane, and upper pipe;

Fig. 4 is a cross sectional view of the assembled components of Fig. 3; and

Fig. 5 is a perspective view showing the piercing of the membrane.

#### DESCRIPTION OF THE PREFERRED EMBODIMENT

With reference of Figs. 1 and 2, a conventional bathroom structure 10 has a floor 12, and a hollow wall 14 with a wall opening 16 therein. A conventional bathtub ("tub") 18 has a base 20 which rests upon floor 12. Sidewalls 22 extend upwardly from base 20 as does an end wall 24. A bottom 26 dwells in spaced relation to the floor 12.

A conventional drain port 28 is located in bottom 26. A conventional overflow port 30 is located in the end wall 24 (Fig. 2). A vertical drain pipe 32 extends downwardly from drain port 28, and overflow drain pipe 34 extends downwardly from overflow port 30. A horizontal pipe 36 connects pipes



32 and 34. A drain pipe 38 extends downwardly from the junction between pipes 34 and 36.

A conventional vertical vent pipe 40 is located within the hollow wall 14. Pipe 42 interconnects vent pipe 40 and the upper end of overflow drain pipe 34 (Fig. 2). Conventional water pipes 44 extend through hollow wall 40 and are connected to valve 46 which is interconnected to conventional control member 48 and faucet 50.

Fig. 3 shows a radial flange 52 formed on the upper end of pipe 34 and has a center opening or port 54. Water can flow through center opening 54 into drain pipe 34. Sleeve 56 extends longitudinally outwardly from the perimeter of opening 54.

A hollow cylindrical fitting 58 has a hollow cylindrical shoulder 60 on its inner end, a threaded outer surface 62, and a thin plastic diaphragm 64 sealed across its outer end. The shoulder 60 has an outer diameter that can be manually frictionally inserted with the inner diameter of flange 56.

A pliable sealing ring or washer 66 has a center bore 67 which can frictionally receive the exterior surface of fitting 58 to engage the radial flange 52 of port 54 to seal the connection between sleeve 56 and shoulder 60. The longitudinal thickness of washer 66 is less than the longitudinal thickness of fitting 58 so that some of the threaded surface 62 adjacent the diaphragm 64 is exposed when the washer 66 is mounted on fitting 58 in the position described above.

A nut element 68 has a threaded center bore 70 which is compatible with the threaded outer surface 62 of fitting 58. When nut element 68 is tightened on threaded portion 62, the washer 66 is in tight engagement with flange 52 of port 54. The outer periphery 72 of nut element 68 has a series of radially extending lugs 74 which frictionally detachably engage the inner surface of flange 76 of cap 78. Nut element can be tightened on washer 66 either as positioned within cap 78, or before cap 78 and the nut element 68 are engaged. A notch 80 is located in flange 76 and is adapted to receive

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overflow water from tub 18 when required to do so. Notch 80 is normally in a 6 o'clock position on flange 76.

It is important to note that diaphragm 64 is of plastic material, as is fitting 58, and is preferably integrally formed with fitting 58 wherein diaphragm 64 and fitting 58 are one unitary component. Diaphragm 64 is a thin circular plate disk that is joined to fitting 58 by its outer peripheral edge engaging the outer peripheral edge of the fitting 58. If the two components are not molded as one unitary structure, the diaphragm 64 could be connected by fusing, hermetically sealed, or by otherwise rigidly attached by its outer peripheral edge to the rearward outer peripheral edges of the fitting by a suitable adhesive. No screws or the like are either required or desired.

In operation, the drainage system comprising the ports 28 and 30, and pipes 34, 36, and 38 are installed as shown in Fig. 3. Vent pipe 40 and connecting pipe 42 are also installed.

In the conventional testing procedure, the port 28 is plugged in any convenient manner. The fitting 58 with diaphragm 64 is installed into drain pipe 34 as described above so there is no fluid access to the upper end of pipe 34 either inwardly or outwardly through overflow port 30. The vent pipe is charged with water at some elevation above pipe 42 so that the building inspectors can check to see if there are any leaks in the system. Having determined that there are no leaks, the water is purged from the system. The plumber can then approach overflow port 30, (since cap 78 is not yet installed) and by using knife 86 or the like, cuts can be made in diaphragm 64 leaving a cutout portion 84 as shown in Fig. 5

It is therefore seen that diaphragm 64 eliminates any need to install or remove any screws or the like for sealing overflow port 30 before or after the testing procedure has taken place. This invention facilitates the testing procedure and reduces the time needed to seal the overflow

port 30, and then to open the diaphragm 64 for possible fluid flow.

It is therefore seen this invention will achieve at least all of its stated objectives.

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What is claimed is:

1.

An overflow assembly for a bathtub which has a bottom and adjacent side and end walls, an overflow port in an end wall, with said overflow port being in communication with a vent pipe and a drain, comprising:  
the overflow port having a surface for frictionally receiving an inner end of a hollow fitting having an outer end and threads on an outer surface,  
a thin diaphragm sealing the outer end of the fitting,  
a sealing element on the fitting and having a sealing surface in engagement with a sealing surface of the overflow port,  
a cap means with threads associated therewith detachably threadably mounted on the fitting to exert sealing pressure on the sealing element, and to permit access to the diaphragm when detached therefrom to permit the diaphragm to be manually cut for fluid flow therethrough when detached from the fitting.

2.

The assembly of claim 1 wherein the diaphragm is of plastic material.

3.

The assembly of claim 1 wherein the diaphragm is integral with said fitting and is held to the fitting only through having been integrally formed therewith.

4.

The assembly of claim 1 wherein a nut element forms a part of the cap means and has threads compatible with the threads on the fitting.

5.

An overflow assembly for a bathtub which has a bottom and adjacent side and end walls, an overflow port in an end wall, with said overflow port being in communication with a vent pipe, comprising:

the overflow port having a surface for frictionally receiving  
an inner end of a hollow fitting having an outer end and  
threads on an outer surface,  
a thin diaphragm sealing the outer end of the fitting,  
a sealing element on the fitting and having a sealing surface  
in engagement with a sealing surface of the overflow  
port,  
a nut having a threaded center opening threadably mounted on  
the fitting to exert sealing pressure on the sealing  
element,  
the nut having means thereon to detachably receive a cap  
element thereupon.

6.

The assembly of claim 5 wherein the diaphragm is  
integral with said fitting and is held to the fitting only  
through having been integrally formed therewith.

7.

The assembly of claim 1 wherein the diaphragm is a  
circular membrane and has a diameter equal to an outer  
peripheral edge of the fitting, and is connected only to the  
fitting and only to the outer peripheral edge of the outer  
end of the fitting.

8.

The assembly of claim 5 wherein the diaphragm is a  
circular membrane and has a diameter equal to an outer  
peripheral edge of the fitting, and is connected only to the  
fitting and only to the outer peripheral edge of the outer  
end of the fitting.

9.

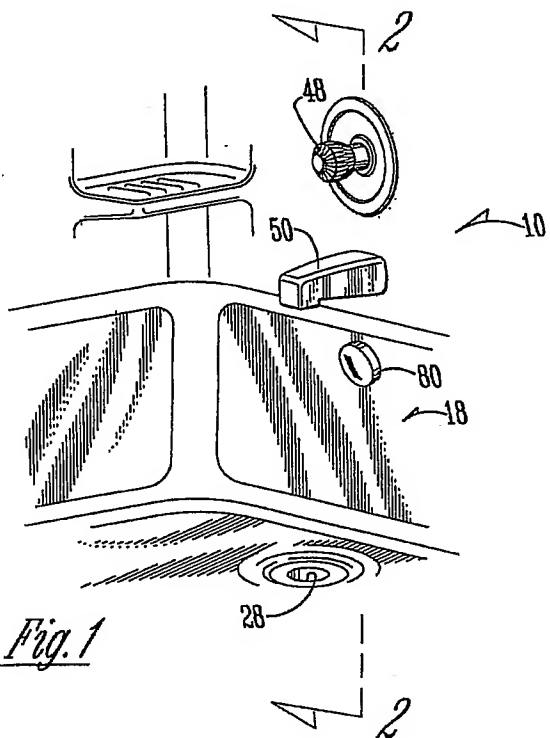
The assembly of claim 8 whereby the diaphragm is  
hermetically sealed to the peripheral edge of the fitting.

ABSTRACT OF THE DISCLOSURE

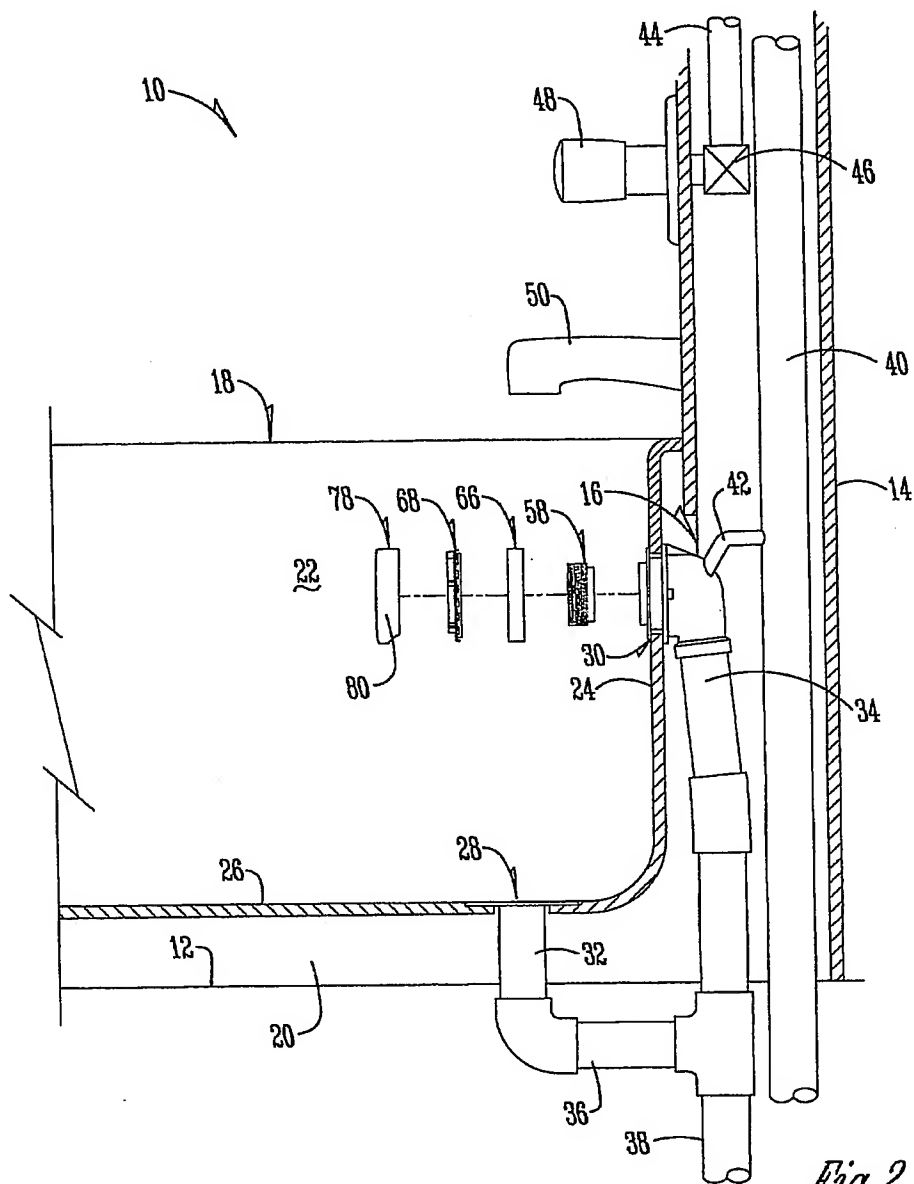
An overflow system in the bathtub has an overflow port and has a drain pipe in connection with the overflow port. A threaded flange has a stub shoulder on one end which is forced-fitted into a circular sleeve on the overflow port. The threaded flange has exterior threads on its outer surface and a thin diaphragm secured to the end thereof opposite to the stub shoulder. A large sealing washer embraces the outside of the circular flange on the overflow port and extends partially over the threads of the threaded flange. A large internally threaded nut is threadably mounted on the outer end of the threaded flange and compresses the sealing washer against a vertical flange on the port to seal the connection between the threaded flange and the port. A decorative cap is frictionally snapped into engagement with protrusions on the outer surface of the nut. The cap can be removed when needed to permit the plumber to gain access to the diaphragm to cut it open for fluid flow after they system has been tested for leaks, or put in place after the cut takes place.

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*Fig. 2*





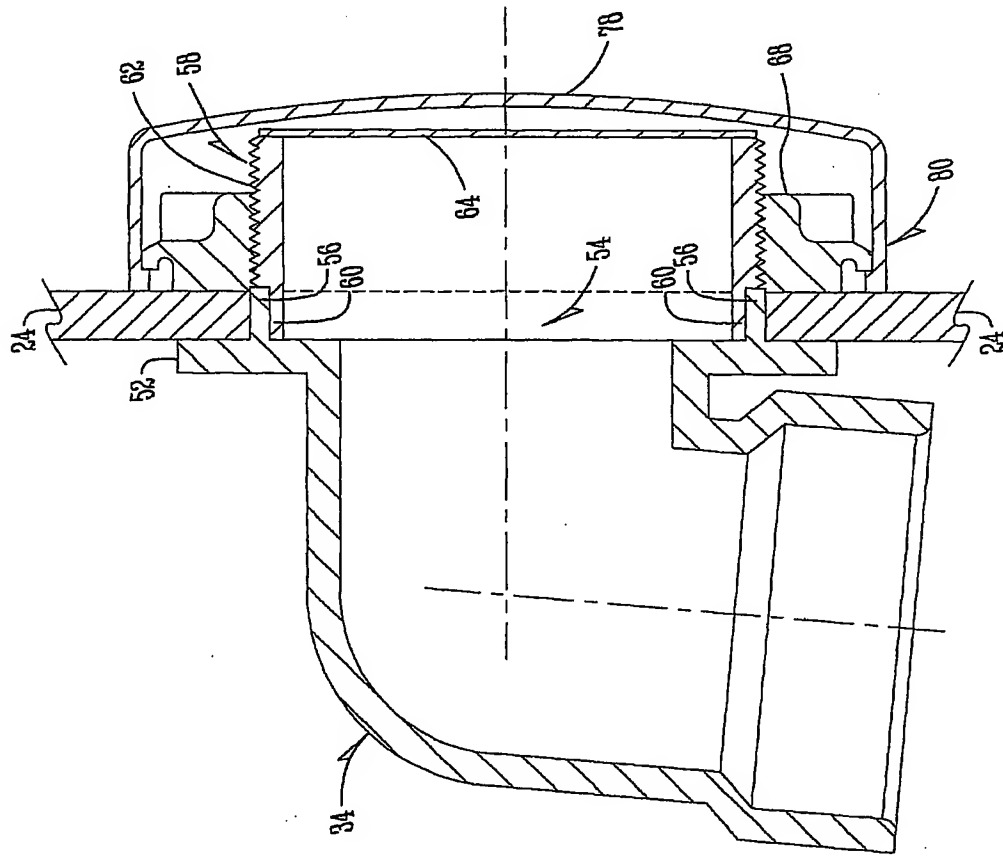


Fig. 4



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 250. **Keywords**  
 251. **Subject Headings**

My residence, post office address and citizenship are as stated below next to my name. I believe I am the original, first and sole inventor, of the subject matter which is claimed and for which a patent is sought on the invention entitled as follows: METHOD AND MEANS FOR AN OVERFLOW ASSEMBLY TO BATHTUBS AND THE LIKE, the specification and drawings of which are attached hereto.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code Of Federal Regulations, Section 1.56. I further declare that no application for patent or I, my legal representative or assigns in any country as identified below have filed inventor's certificate on this invention foreign to the United States of America except:

Applicant hereby appoints the attorneys of record listed under Customer No. 22885 at ZARLEY, MCKEE, THOMTE, VOORHEES & SEASE, 801 Grand Avenue, Suite 3200, Des Moines, Iowa 50309-2721 (telephone number 515-288-3667 and fax number 515-288-1338), as my attorneys to prosecute this application and to transact all business in the Patent Office connected therewith.

I hereby declare that all statements made herein are of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

**SIGNATURE**

Inventor's signature: W. L. Smith

Date: 6-9, 2000.

Full name of sole inventor: William T. Ball

Residence: Colorado Springs, Colorado

Post Office Address: 1980 Inwood Circle  
Colorado Springs, Colorado 80904

Country of Citizenship: United States of America

This declaration ends with this page.

**THE UNIVERSITY OF CHICAGO**

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*Application No. 10/674,862*

X. RELATED PROCEEDINGS APPENDIX

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* WILLIAM T. BALL

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Appeal 2007-0769  
Application 10/732,726<sup>1</sup>  
Technology Center 3700

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Decided: October 17, 2007

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Before WILLIAM F. PATE, III, TERRY J. OWENS, and DAVID B. WALKER,  
*Administrative Patent Judges.*

WALKER, *Administrative Patent Judge.*

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<sup>1</sup> This application is a continuation-in-part of U.S. Application Serial No. 09/954,420 filed September 17, 2001 and a continuation-in-part of U.S. Application Serial No. 10/229,533 filed August 28, 2002, which was a continuation of U.S. Application Serial No. 09/953,724 filed June 13, 2000 (now abandoned). The real party in interest is WCM Industries, Inc. of Colorado Springs, Colorado.

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Application 10/732,726

## DECISION ON APPEAL

### STATEMENT OF THE CASE

Appellant seeks our review under 35 U.S.C. § 134 of the Examiner's final rejection of claims 1, 5, 6, and 10. We have jurisdiction under 35 U.S.C. § 6(b). We affirm-in-part and remand.

### THE INVENTION

Appellant claims a system and method for easy installation of a waste water drain assembly and overflow outlet for a bathtub that can be accomplished by a single individual and easily field tested (Specification 2:16-29). Claims 1 and 10, reproduced below, are representative of the subject matter on appeal.

1. A method for conducting a fluid leakage test on a fluid system comprising a bathtub which has a bottom and adjacent side and end walls, and an overflow port in an end wall, with the bottom having a waste water port, and with the overflow port and the waste water port being in communication with a primary drain system, comprising:

sealing a thin diaphragm over the overflow port and the waste water port,

charging the primary drain system with fluid to conduct the leakage test,

purging the primary drain system from fluid,

opening the diaphragms to thereafter permit the flow of fluid through the overflow port and the waste water port;

wherein the diaphragms are opened by physically cutting them open to permit fluid flow.



10. A method for conducting a fluid leakage test on a fluid system comprising a bathtub which has a bottom and adjacent side and end wall, and an overflow port in an end wall, and with the overflow port being in communication with a primary drain system steps comprising:

providing a one-piece overflow fitting have an overflow pipe with an inverted L-shape having an elbow portion defining an upper end portion and a lower end portion, the upper end portion having an outer end defining an inlet being adapted to fit through the bathtub overflow port;

providing threads on an outer surface of the upper end portion and surrounding the inlet and normally extending through the bathtub overflow port;

providing a lip extending radially outwardly from an outer surface of the overflow pipe between the elbow portion and the upper end portion and being spaced from the inlet to engage an outer surface of the bathtub end wall around the bathtub overflow port;

sealing a thin diaphragm to the outer end of the upper end portion to close the inlet to fluid flow;

opening the diaphragm to permit the flow of fluid through the overflow port;

threading a nut element compatible with the threads wherein the nut element has a threaded portion for threadably mounting the nut to the upper end portion to clamp the overflow fitting to the end of the bathtub between the lip and the nut element, and at least one lug extending radially from the nut; and

detachably engaging a cap to the lug to cover the nut.

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### THE REJECTIONS

The Examiner relies upon the following as evidence in support of the rejections:

Ball	5,890,241	Apr. 6, 1999
Francisco	6,088,843	Jul. 18, 2000
Fritz	6,192,531 B1	Feb. 27, 2001
Lewis	US 2002/0032926 A1	Mar. 21, 2002
Oropallo	US 6,618,875 B1	Sep. 16, 2003 (filed Mar. 28, 2002)

The following rejections<sup>2</sup> are before us for review.

1. Claim 1 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Ball in view of Fritz.
2. Claims 5 and 6 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Ball in view of Fritz and further in view of Francisco.
3. Claim 10 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Lewis, Fritz, and Oropallo.

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<sup>2</sup> The Examiner withdrew a rejection of Claim 10 under 35 U.S.C. § 112, first paragraph, in light of Appellant's arguments at Br. 7.

### ISSUE

The issue before us is whether Appellant has shown that the Examiner erred in rejecting (1) claim 1 as unpatentable over Ball in view of Fritz; (2) claims 5 and 6 as unpatentable over Ball in view of Fritz and further in view of Francisco; and (3) claim 10 as unpatentable over Lewis, Fritz, and Oropallo. The dispositive issue is whether it would have been obvious to one of skill in the art at the time of the invention to seal a thin diaphragm over the overflow port and the waste water port of claim 1 and the outer end of the upper end portion of the one-piece overflow fitting of claim 10.

Rather than repeat the arguments of Appellant and the Examiner, we make reference to the Briefs and the Answer for their respective details. Only those arguments actually made by Appellant have been considered in this decision. Arguments which Appellant could have made but chose not to make in the Briefs have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii) (2004).

### FINDINGS OF FACT

We find the following enumerated findings to be supported by at least a preponderance of the evidence. *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427, 7 USPQ2d 1152, 1156 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Office).

1. Ball teaches a conventional bathtub with a base which rests on the floor, side walls and an end wall that extend upwardly from the base, and a

bottom in spaced relation to the floor. A conventional drain port is located in the bottom and a conventional overflow port is located in the end wall. A vertical drain pipe and an overflow drain pipe are connected to a downward drain pipe via a horizontal pipe (Ball, col. 2, ll. 13-23).

2. A diaphragm comprised of flexible rubber or the like is imposed over the overflow port (Ball, col. 2, ll. 37-40). After leak testing the system, water is purged from the system and the plumber can use a knife or other sharp object to make cuts in the diaphragm without disassembling any of the structure. Ball teaches that the diaphragm eliminates any need to remove any sealing component from the overflow port after testing and facilitates the testing procedure (Ball, col. 2, l. 65 – col. 3, l. 13).
3. Ball teaches that the drain port is plugged in any conventional manner in a conventional testing procedure (Ball, col. 2, ll. 59-60). It does not explicitly teach sealing a thin diaphragm over the waste water port to permit a leak test and then opening the diaphragm to thereafter permit the flow of fluid through the waste water port.
4. The combined teachings of Ball to (1) use a flexible rubber diaphragm to seal the overflow port prior to perform a leak test and to use a knife or other sharp object to cut the diaphragm to permit fluid flow when the test is complete; and (2) plug the drain port in “any conventional manner in a conventional testing procedure” would have at least suggested to one of skill in the art at the time the invention was made to modify Ball to use a

thin diaphragm to seal the drain port for leak testing in a similar manner to that disclosed for the overflow port.

5. Fritz discloses a tub waste overflow assembly with a mold in place test plug (Fritz, col. 1, ll. 11-13). The overflow assembly includes a removable test plug, preferably unitarily molded together with a retaining body. The plug thickness is preferably adequate to resist rupture when exposed to the hydraulic pressure of leak testing, but susceptible to being removed following such testing (Fritz, col. 4, ll. 30-41). Fritz also teaches that, “in a particularly preferred embodiment of the invention, a relatively thin, continuous test plug 15 is either molded in place or otherwise provided across the mouth of retaining body 21 of the overflow port to facilitate hydraulic testing” (Fritz, col. 3, ll. 10-14).
6. Fritz does not explicitly mention a diaphragm or a waste water port. It thus does not teach sealing a thin diaphragm over the waste water port to permit a leak test and then opening the diaphragm to thereafter permit the flow of fluid through the waste water port as required by claim 1. It also does not teach sealing a thin diaphragm over the outer end of the upper end portion of a one-piece overflow fitting as required by claim 10.
7. Francisco teaches a removable drain strainer with a sieve receptacle and bristle extension for use in a bathtub or shower drain system (Francisco, col. 1, ll. 5-10). It includes a drain system 102 having a threaded portion 48 and lock washer 52 (Francisco, Figure 2).

8. Neither Lewis nor Oropallo teach sealing a thin diaphragm over the outer end of the upper end portion of a one-piece overflow fitting as required by claim 10.

#### PRINCIPLES OF LAW

“Section 103 forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’” *KSR Int’l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1734, 82 USPQ2d 1385, 1391 (2007).

The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of ordinary skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966). *See also KSR*, 127 S.Ct. at 1734, 82 USPQ2d at 1391 (“While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.”)

In *KSR*, the Supreme Court emphasized “the need for caution in granting a patent based on the combination of elements found in the prior art,” *id.* at 1739, 82 USPQ2d at 1395, and discussed circumstances in which a patent might be determined to be obvious. In particular, the Supreme Court emphasized that “the principles laid down in *Graham* reaffirmed the ‘functional approach’ of *Hotchkiss*,

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11 How. 248.” *KSR*, 127 S.Ct. at 1739, 82 USPQ2d at 1395 (citing *Graham*, 383 U.S. at 12, 148 USPQ at 464 (emphasis added)), and reaffirmed principles based on its precedent that “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *Id.* The Court explained:

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

*Id.* at 1740, 82 USPQ2d at 1396. The operative question in this “functional approach” is thus “whether the improvement is more than the predictable use of prior art elements according to their established functions.” *Id.*

The Supreme Court stated that there are “[t]hree cases decided after *Graham* [that] illustrate the application of this doctrine.” *Id.* at 1739, 82 USPQ2d at 1395. “In *United States v. Adams*, ... [t]he Court recognized that when a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result.” *Id.* at 1739-40, 82 USPQ2d at 1395. “*Sakraida and Anderson’s-Black Rock* are illustrative – a court must ask whether the

improvement is more than the predictable use of prior art elements according to their established function.” *Id.* at 1740, 82 USPQ2d at 1395.

The Supreme Court stated that “[f]ollowing these principles may be more difficult in other cases than it is here because the claimed subject matter may involve more than the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement.” *Id.* The Court explained, “[o]ften, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *Id.* at 1740-41, 82 USPQ2d at 1396. The Court noted that “[t]o facilitate review, this analysis should be made explicit.” *Id.* (citing *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006) (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness”). However, “the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *Id.*

In rejecting claims under 35 U.S.C. § 103(a), the examiner bears the initial burden of establishing a prima facie case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). *See also In re Piasecki*, 745



F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984). Only if this initial burden is met does the burden of coming forward with evidence or argument shift to the appellant. *Id.* at 1445, 24 USPQ2d at 1444. *See also Piasecki*, 745 F.2d at 1472, 223 USPQ at 788. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. *See Oetiker*, 977 F.2d at 1445, 24 USPQ2d at 1444; *Piasecki*, 745 F.2d at 1472, 223 USPQ at 788.

#### ANALYSIS

##### **A. Rejection of claim 1 under 35 U.S.C. § 103(a) as unpatentable over Ball in view of Fritz.**

The Examiner found that Ball teaches all of the limitations of claim 1 except the waste water port including a test plug that is a cut open diaphragm (Answer 4). He relies on Fritz for the missing limitation, finding that it teaches a test plug including a diaphragm (Answer 4). The Examiner found that “in consideration of Fritz, it would have been obvious to one of ordinary skill in the drain system testing art to associate a diaphragm with the [Ball] test plug in order to enable quick and easy removal.” (Answer 5). The Appellant argues that “even if one was motivated to combine the Ball and Fritz references the plug 15 would be within the drain and not over the waste water port as the claim requires.” (Br. 8).

Ball discloses a diaphragm comprised of flexible rubber or the like that is imposed over the overflow port for leak testing and, after the testing is complete, cut with a knife or other sharp object after water is purged from the system without disassembling any of the structure. Ball teaches that the diaphragm eliminates any

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need to remove any sealing component from the overflow port after testing and facilitates the testing procedure (Finding of Fact 3). Fritz teaches the use of a relatively thin, continuous test plug to seal an overflow port during leak testing (Finding of Fact 5).

The only disclosure in either reference regarding plugging a drain port in connection with a leak test is the teaching of Ball that “[i]n the conventional testing procedure, the [drain] port 28 is plugged in any conventional manner” (Finding of Fact 3). We find that the teaching of Ball to use a flexible rubber diaphragm to seal the overflow port and to seal the drain port in any conventional means in preparation for leak testing would have at least suggested to one of skill in the art at the time the invention was made to modify Ball to use a thin diaphragm to seal the drain port for leak testing in a similar manner to that disclosed for the overflow port (Finding of Fact 4). Appellant has not shown that the Examiner erred in rejecting claim 1 as obvious over Ball in view of Fritz.

**B. Rejection of claims 5 and 6 under 35 U.S.C. § 103(a) as unpatentable over Ball in view of Fritz and further in view of Francisco.**

The Examiner found that:

Although the drain system of the [Ball] bathtub does not include a threaded portion and lock washer, as claimed, attention is directed to the Francisco reference which discloses an analogous bathtub which further includes a drain system 102 having a threaded portion 48 and lock washer 52. Therefore, in consideration of Francisco, it

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would have been obvious to one of ordinary skill in the bathtub art to associate a threaded portion and lock washer with the [Ball] drain system in order to facilitate securement.

(Answer 5). Appellant asserts that there is no motivation to combine Francisco with Ball or Fritz (Br. 9). Appellant does not contest that the combination of Ball, Fritz, and Francisco discloses all of the limitations of claims 5 and 6. To the extent the Appellant argues in his pre-KSR Brief that there is no explicit teaching, suggestion, or motivation to combine Francisco with Ball and Fritz, that argument is foreclosed by *KSR*. *KSR*, 127 S.Ct. at 1740-41, 82 USPQ2d at 1396.

One of ordinary skill in the art would have been able to modify the combination of Ball and Fritz to include the threaded portion and lock washer of Francisco using methods known in the art at the time the invention was made. Moreover, each of the elements of Ball, Fritz, and Francisco combined by the Examiner performs the same function when combined as it does in the prior art. Such a combination would have yielded predictable results. *See Sakraida*, 425 U.S. at 282, 189 USPQ at 453.

Claim 5 thus is a combination which only unites old elements with no change in their respective functions and which yields predictable results. Therefore, the claimed subject matter likely would have been obvious under *KSR*. In addition, neither Appellant's Specification nor Appellant's arguments present any evidence that modification of Ball suggested by the Examiner is uniquely challenging or difficult for one of ordinary skill in the art. Moreover, the threaded portion and lock washer of Francisco are a technique that has been used to improve

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one device (the bathtub of Francisco), and one of ordinary skill in the art would recognize that it would improve similar devices in the same manner.

Because Appellant has not shown that the application of the Francisco threaded portion and lock washer to the combination of Ball and Fritz would have been beyond the skill of one of ordinary skill in the art, we find using the technique would have been obvious. Under those circumstances, the Examiner did not err in finding that it would have been obvious to one of ordinary skill in the bathtub art to associate a threaded portion and lock washer with the Ball drain system in order to facilitate securement (Answer 5). Because this is a case where the improvement is no more than the predictable use of prior art elements according to their established functions, no further analysis was required by the Examiner. *KSR*, 127 S.Ct. at 1740, 82 USPQ2d at 1396. Claim 6 was not argued separately, and falls with claim 5. See 37 C.F.R. § 41.37(c)(1)(vii). See also *In re Young*, 927 F.2d 588, 590, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991).

**C. Rejection of claim 10 under 35 U.S.C. § 103(a) as unpatentable over Lewis, Fritz, and Oropallo.**

The Examiner found that Lewis teaches all of the limitations of claim 10, except for the overflow fitting including a diaphragm and cap. He relies on Fritz to provide a diaphragm, and found that it would have been obvious to one of skill in the art to associate a diaphragm with the Lewis overflow fitting in order to facilitate testing. The Examiner turns to Oropallo for a teaching of a cap on the overflow fitting, and found it would have been obvious to one of ordinary skill in

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the drain system art to associate a cap with the Lewis overflow fitting in order to conceal same. (Answer 6).

The Appellant argues that Fritz does not teach sealing a thin diaphragm to the outer end of the upper end portion of an overflow fitting as required by claim 10, instead arguing that Fritz teaches a plug 15 that is within a retaining body 12 (Br. 10). We agree with Appellant that Fritz teaches one embodiment in which a plug 15 is within a retaining body 12. In the only other disclosed embodiment, Fritz teaches a removable test plug 76 that is a separate component from the overflow fitting (Finding of Fact 5). In both embodiments, the test plug, which is not explicitly described as a thin diaphragm as claimed, is not sealed to the outer end of the upper end portion of a one-piece overflow fitting as required by claim 10 (Finding of Fact 6). Even combining Fritz with Lewis, there still is no teaching to seal a thin diaphragm to the outer end of the upper end portion of a one-piece overflow fitting as required by claim 10, because Lewis does not teach the use of a diaphragm, and Fritz does not explicitly teach a thin diaphragm and, to the extent the test plug could be considered a thin diaphragm, it is not sealed in the manner required by claim 10. The Examiner has provided no reference showing the missing limitations (Findings of Fact 6 and 8), nor has he made a prima facie case of obviousness over Lewis, Fritz, and Oropallo with respect to claim 10.

#### REMAND

We remand this application to the Examiner for consideration of whether the combination of Ball with Lewis, Fritz, and Oropallo renders obvious the subject matter of claim 10. As discussed in connection with the rejection of claim 1, Ball

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teaches a diaphragm comprised of flexible rubber or the like that is imposed over the overflow port for leak testing and, after the testing is complete, cut with a knife or other sharp object after water is purged from the system without disassembling any of the structure (Finding of Fact 3).

As such, we remand this application to the Examiner to consider whether it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the bathtub drain adapter of Lewis to seal a thin diaphragm to the outer end of the upper end portion of a one-piece overflow fitting as taught by Ball.

### CONCLUSIONS

We conclude that Appellant has not shown that the Examiner erred in rejecting claims 1, 5, and 6 under 35 U.S.C. § 103(a). We conclude that Appellant has shown that the Examiner erred in rejecting claim 10 under 35 U.S.C. § 103(a).

### DECISION

The decision of the Examiner to reject claims 1, 5, and 6 under 35 U.S.C. § 103(a) is affirmed. The decision of the Examiner to reject claim 10 under 35 U.S.C. § 103(a) is reversed. The application is remanded to the Examiner pursuant to 37 C.F.R. § 41.50(a)(1) (2006) for further consideration of the prior art.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2006).

In addition to affirming the examiner's rejection of one or more claims, this decision contains a remand. 37 CFR § 41.50(e) (effective September 13, 2004, 69 Fed. Reg. 49960 (August 12, 2004), 1286 Off. Gaz. Pat. Office 21 (September 7, 2004)) provides that

[w]henver a decision of the Board includes a remand, that decision shall not be considered final for judicial review. When appropriate, upon conclusion of proceedings on remand before the examiner, the Board may enter an order otherwise making its decision final for judicial review.

Regarding any affirmed rejection, 37 CFR § 41.52(a)(1) provides "[a]ppellant may file a single request for rehearing within two months from the date of the original decision of the Board."

The effective date of the affirmance is deferred until conclusion of the proceedings before the examiner unless, as a mere incident to the limited proceedings, the affirmed rejection is overcome. If the proceedings before the examiner do not result in allowance of the application, abandonment or a second appeal, this case should be returned to the Board of Patent Appeals and Interferences for final action on the affirmed rejections, including any timely request for rehearing thereof.

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AFFIRMED-IN-PART AND REMANDED

jlb

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